Chapter 14

SENSITIVE AREA DISTRICT, SA

Sections:

16-14-010 Purpose and Intent.

The purpose of the SA District is to designate and describe those areas within the county that possess physical and/or environmental characteristics which require special public consideration of use applications which might affect the structure or the land; the management of surface or subsurface water; safety of future land occupants due to increased fire, geologic hazards, or storm hazards from the proposed development; or, the uneconomic extension of public facilities and services. Of specific concern is development in flood-prone areas, earthquake zones, landslide areas, rock fall areas, debris flow areas, alluvial fans, areas of steep slope or unstable soils, wetlands, and other sensitive areas requiring careful assessment prior to alteration.

It is the intent of these regulations to permit the use of property, while requiring design solutions which will avoid detrimental impacts on sensitive natural areas, as well as provide protection from adverse natural forces and hazards. Standards for said design solutions shall be as adopted within this chapter.

16-14-011 Definitions.

As used in this chapter, the following terms have the following meanings:

Active Fault: A fault displaying evidence of greater than four inches of displacement along one or more of its traces during Holocene time (about 10,000 years ago to the present).

Alluvial Fan: A fan shaped deposit where a fast-flowing stream flattens, slows, and spreads; typically at the exit of a canyon onto a flatter plain.

Avalanche: A large mass of snow, ice, soil or rock, or a mixture of these materials, falling, sliding, or flowing rapidly under the force of gravity.

Buildable Area: That portion of a site where an approved engineering geology and/or geotechnical report, as required, has indicated is not impacted by geologic hazards, or concluded that the identified hazards can be mitigated to a level where risk to human life and property are reduced to an acceptable and reasonable level, and where structures may be safely sited. Buildable areas must be clearly marked on the site plan and/or final approved plat, as appropriate.

Critical Facilities: Essential facilities, and lifelines such as major utility, transportation, and communication facilities and their connections to essential facilities.

Debris Flow: A slurry of rock, soil, organic material, and water transported in an extremely fast and destructive flow that flows down channels and onto and across alluvial fans; includes a continuum of sedimentation events and processes including debris flows, debris floods, mudflows, clearwater floods, and alluvial fan flooding.

Development: Includes all critical and essential facilities, subdivisions, single- and multi-family dwellings, commercial and industrial buildings, additions to existing buildings, storage facilities, pipelines and utility conveyances, and other land uses.

Engineering Geologist: A geologist who, through education, training and experience, is able to conduct field investigations and interpret geologic conditions to recommend that geologic factors affecting engineered works are recognized, adequately interpreted, and presented for use in engineering practice and

for the protection of the public. Professional licensing is required through the State of Utah.

Engineering Geology: The application of geological data, principles and interpretation so that geological factors affecting planning, design, construction, and maintenance of engineered works are properly recognized and adequately interpreted.

Factor of Safety: The ratio of resisting forces to driving forces within a particular failure mode.

Fault: A fracture in the earth's crust forming a boundary between rock or soil masses that have moved relative to each other (see "Active fault").

Fault Setback: An area on either side of a fault within which support of structures for human occupancy or critical facilities is not permitted.

Fault Scarp: A steep slope or cliff formed by movement along a fault.

Fault Trace: The intersection of a fault plane with the ground surface, often present as a fault scarp, or detected as a lineament on aerial photographs.

Fault Zone: A corridor of variable width along one or more fault traces, within which deformation has occurred.

Geologic Hazard: Surface fault rupture, liquefaction, landslide, earthquake, debris flow, avalanche, rockfall, and/or other geologic processes that may present a risk to life and/or property.

Geotechnical Engineer: A professional, licensed engineer whose education, training and experience, is in the field of geotechnical engineering. Professional licensing is required through the State of Utah.

Geotechnical Engineering: The investigation and engineering evaluation of earth materials including soil, rock and man-made materials and their interaction with earth retention systems, foundations, and other civil engineering works. The practice involves the fields of soil mechanics, rock mechanics, and earth sciences and requires knowledge of engineering laws, formulas, construction techniques, and performance evaluation of engineering.

Governing Body: The Morgan County Council.

Landslide: A general term for the downslope movement of a mass of soil, surficial deposits or bedrock, including a continuum of processes between landslides, earthflows, mudflows, debris flows and debris avalanches, and rockfall.

Liquefaction: A process by which certain water-saturated soils lose bearing strength because of earthquake-related ground shaking and subsequent increase of groundwater pore pressure.

Non-Buildable Area: That portion of a site which an engineering geology report has concluded may be impacted by geologic hazards that cannot be feasibly mitigated to a safe level, and where citing of habitable structures is not permitted.

Rockfall: A rock, or mass of rock, newly detached from a cliff or other steep slope which moves downslope by falling, rolling, toppling, or bouncing; includes rockslides, rockfall avalanches, and talus.

Setback: An area within which support of habitable structures or critical facilities is not permitted.

Slope Stability: The resistance of a natural or artificial slope or other inclined surface to failure by landsliding; usually assessed under both static and pseudo static (earthquake induced) conditions.

Structure Designed For Human Occupancy: Any residential dwelling or other structure used or intended for supporting or sheltering any human occupancy. An accessory building is not included within this category.

Talus: Rock fragments of any size lying at the base of a cliff or a very steep rocky slope.

16-14-020 Permitted Uses.

The following uses are permitted in the SA District:

1. Tilling of the soil;
2. Raising of crops;
3. Horticulture and gardening, excluding agricultural industries;
4. Raising of livestock in accordance with underlying zone;

5. Agricultural structures, accessory in nature to permitted uses; and
6. Unoccupied recreational accessory structures, as permitted in underlying zone (eg. bowery).

16-14-030 Conditional Uses.

The SA District is an overlay district whose sole effect is to require additional review of proposed uses in the underlying districts. To this end, any permitted use in a district overlain by an SA District, with the exception of those uses permitted in Section 16-14-020 above, is a conditional use. Conditional uses authorized in districts overlaid by the SA District remain conditional uses.

16-14-040 General.

The "Sensitive Area District, SA" zoning district shall be as indicated on the current Sensitive Area District Overlay Map, if a map exists, and included in the Morgan County Land Use Management Code. The Sensitive Area District Overlay shall also include areas of Morgan County not shown on the Sensitive Area District Overlay Map but designated as:

1. Areas designated as zones A, AE, AH, and A0 on the Federal Emergency Management Agency's Flood Insurance Rate Maps for Morgan County;

2. Geological hazards as defined within this section and including areas designated as Qap, Qac, Qc, Qmc, Qm, Qmo, Qms, Qms1, Qms2, Qms3, Qms4, Qmso, Qmt, Qly, Ql, Qlf, Qls, Qsm, and Tn on the Geologic Map of the Ogden 30'x60' Quadrangle, Utah and Wyoming by Coogan and King, and the Geologic Map of the Snowbasin 7.5' Quadrangle, Utah by Coogan and King;

3. Wetlands as defined by and within the jurisdiction of the US Army Corps of Engineers;

4. Other environmentally sensitive areas that the Planning Commission and County Council find to be of significance to the health, safety, and welfare of the citizens of Morgan County;

5. Drainage channels subject to flash flooding and alluvial fans subject to debris flow.

16-14-050 GEOLOGIC HAZARDS

1. Applicability. The regulations contained in this Chapter shall apply to all lands in Morgan County considered geologic hazards within the Sensitive Area District as defined above.

2. Disputes. Property owners desiring to have their property removed from the geologic hazards areas of the Sensitive Area District may remove the overlay by completing the following:

A. The person disputing the overlay boundary or the presence of mapped or unmapped hazard(s) within a particular area shall submit technical and geologic evidence to support their claim to Morgan County in the form of a site-specific geologic hazards report.

B. Morgan County may request the Utah Geological Survey, U.S. Forest Service, and/or other experts to review the evidence (third-party review) prior to hearing the request in a public meeting. The cost of the third-party review shall be paid by the person disputing the map.

C. Morgan County shall rezone the property by removing it from the Sensitive Area District if evidence is provided by the applicant that demonstrates that the geologic hazards designation location is incorrect, or that the mapped hazards are not present within a particular area.

3. Studies and reports required. Any applicant requesting development approval on a parcel of land within a geologic hazard area of the Sensitive Area District shall submit three copies of a site-specific geologic hazard study and report to the Morgan County Community Development Department. On a lot of record within the geologic hazard area of the Sensitive Area District, and for consideration of a building permit, the Morgan County Building Official and/or the Morgan County Engineer may require an additional site specific study prior to the issuance of a building permit where evidence suggests that the overall development study may not have identified specific hazards applicable to the lot.

4. Requirements in Geologic Hazard Areas.

A. No critical facility (excluding transportation lines or utilities, which by their nature may cross active faults) or structures designed for human occupancy shall be built astride an active fault. A fault study must be prepared prior to final approval of the land use or applicable building permits. If a fault is discovered in the excavation, a special study must be performed to determine if the fault is active. If the fault is determined to be active, the procedures set forth in Chapter 16-14-070 shall be followed. The fault study report shall establish a fault setback on either side of the fault within which no critical facilities or structures for human occupancy shall be placed.

B. No structure designed for human occupancy shall be built on a fault scarp. Footing setbacks from a fault scarp shall meet the requirements as recommended and approved pursuant to Chapter 16-14-070 or the requirements of the adopted Building Code, whichever is more stringent. The Building Official may increase footing setback requirements where information from a geotechnical report indicates slope conditions warrant a greater setback distance.

C. Fault setback requirements do not apply to accessory buildings.

D. Every lot in a proposed land subdivision must have a building site safe for the intended use. Each building site must also have access free of geologic hazards. Any geologic hazards which must be removed in order to provide a building site and access must be mitigated before the tract or parcel may be recorded.

5. Disclosure when a geologic hazards report is required.

A. Whenever a geologic hazards report is required under this chapter, the owner of the parcel shall record a notice running with the land in a form satisfactory to Morgan County prior to the approval of any development or subdivision of such parcel. Disclosure will include signing a Disclosure and Acknowledgment Form provided by the County, which will include the following:

i. Notice that the parcel is located within a geologic hazard area of the Sensitive Area District as shown on the Morgan County Zoning map or otherwise defined in Chapter 16-14-040;

ii. Notice that a geologic hazards report was prepared and is available for public inspection in Morgan County's files.

B. Where geologic hazards and related setbacks are delineated in a subdivision, the owner shall also place additional notification on the plat stating the above information, prior to final approval of the plat.

6. Warning and disclaimer. The geologic hazard areas of the Sensitive Area District represent only those hazardous areas known to the County, and should not be construed to include all possible potential hazard areas. The provisions of this chapter do not in any way assure or imply that areas outside the identified geologic hazard areas of the Sensitive Area District boundaries will be free from the possible adverse effects of geologic hazards. This chapter shall not create liability on the part of Morgan County or any officer or employee thereof for any damages from geologic hazards that result from reliance on this chapter or any administrative requirement or decision lawfully made hereunder.

7. Change of use. No change in use which results in the conversion of a building or structure from one not used for human occupancy to one that is so used shall be permitted unless the building or structure complies with the provisions of this chapter.

8. Conflicting regulations. In cases of conflict between the provisions of existing zoning classifications, building code, subdivision ordinance, or any other ordinance of Morgan County and the Sensitive Area ordinance codified in this chapter, the most restrictive provision shall apply.

16-14-060 Geotechnical/Geologic Report Standards. This section describes requirements for site-specific geologic hazard studies and geotechnical reports, where required according to the Sensitive Area Overlay Zone and the Land Use Management Code.

1. An engineering geology report or a geotechnical engineering report that includes a geologic hazards investigation and assessment shall be prepared by a qualified engineering geologist and/or professional engineer. The report shall be site-specific and shall identify all known or suspected potential geologic hazards, originating on-site or off-site, whether previously mapped or unmapped, that may affect the particular property. All reports shall be signed and stamped by the preparer in the form of an active Professional Geologist and/or Professional Engineer license registered in the State of Utah and include the qualifications of the preparer.

2. The final grading plan for the development must be signed and sealed by the Professional Engineer or Professional Geologist that prepared the Geotechncial/Geologic Report to verify that their recommendations have been incorporated and that the building location is approved. An appropriately signed and sealed addendum from the Professional Engineer or Professional Geologist that prepared the Geotechnical/Geologic Report may be filed with the final grading plan in lieu of the Professional Engineer or Professional Geologist that prepared the Geotechnical/Geologic Report signing and sealing the grading plan.

3. If an application for subdivision approval (including PUD, PRUD, commercial subdivision, standard residential subdivision, etc.) does not specifically address geologic hazards on each individual building lot, lots may be designated as restricted lots on the final plat in which further geologic and/or geotechnical study will be required in accordance with this chapter prior to issuance of a building permit for said lots.

4. Debris flow hazard studies and reports shall include test pits or trench logs, include estimates of the number and frequency of past events and their thicknesses, volume and maximum clast sizes; and include estimates of the recurrence, depth, and impact forces anticipated in future events. While debris flow hazard analyses may require contributions from hydrologists and engineers, the debris flow report shall be under the control of, and prepared by, a qualified engineering geologist, and shall include the geologist's qualifications to perform the study (such as their experience in performing similar studies).

5. Landslide reports shall be prepared in accordance with the Utah Geological Survey's "Guidelines for Evaluating Landslide Hazards in Utah" (Hylland, 1996). Landslide reports shall be prepared, signed, and stamped by a qualified engineering geologist, and include the qualifications of the preparer. Slope stability or other analyses included in these reports shall include both static and dynamic conditions, and shall be prepared by a qualified professional geotechnical engineer and shall include the professional engineer's original stamp and signature. Slope stability analyses shall be modeled such that the factor of safety of existing, active landslides shall be less than 1.0. This model shall then be used as a baseline for evaluating developed conditions. Back-calculated adjustments shall be made to piezometric surfaces, strength parameters, etc. to assure that the pre-developed condition in existing landslides is in accordance with landslide conditions in which the resisting forces are less than the driving forces. Those adjustments shall then be translated to the slope stability model for the developed conditions. Effective, residual soil strength parameters taken from actual laboratory testing of site soils must be used in the slope stability analysis in clay soil profiles.

    A. Identified landslides within a proposed subdivision (including PUD, PRUD, commercial subdivision, standard residential subdivision, etc.) may not be subdivided. Lot lines must be located such that the landslide is located entirely within one lot.

    B. Identified landslides may not be located in areas to be dedicated to Morgan County for public improvements unless properly stabilized. Conditional acceptance of the development will not be granted until the project geologist/geotechnical engineer certifies that the improvement is stabilized to an appropriate factor of safety.

C. Claims that a landslide is inactive must be substantiated by actual data derived from a study of the specific landslide in question.

D. The developer shall be required to stabilize landslide areas and other areas with unacceptable factors of safety if the developer intends to improve those areas.

6. Other geologic hazard or engineering geology reports shall be prepared in accordance with Utah Geological Survey Miscellaneous Publication M, "Guidelines for Preparing Engineering Geologic Reports in Utah." All reports shall be signed by the preparer and include the qualifications of the preparer. Generally, these reports must be prepared, signed, and stamped by a qualified engineering geologist. However, reports co-prepared by a professional engineer must include the professional engineer's original stamp and signature.

7. All reports shall include, at a minimum:

A. A 1:24,000-scale geologic map (with reference) showing the surface geology, bedrock geology (where exposed), bedding attitudes, faults or other structural features, and the locations of any geologic hazards;

B. An evaluation of recent aerial photographs for the potential presence of landslides and/or faults;

C. A review of published maps of the Utah Geologic Survey including the maps prepared by Coogan and King for the Ogden/Snowbasin area that include portions of Morgan County;

D. An accurate, detailed site map of the subject area showing any site-specific mapping performed as part of the geologic investigation, and including boundaries and features related to any geologic hazards, topography, and drainage. The site map must show the location and boundaries of the hazard(s), delineation of any recommended setback distances from hazard(s), and recommended location(s) for structures. Buildable and non-buildable areas shall be clearly identified. Scale shall be one inch equals one hundred feet or larger;

E. A site geology map and geologic cross sections to illustrate local geologic structure;

F. Trench logs, boring logs, and test pit logs (scale: 1 inch equals 5 feet, or larger), boring logs (scale: 1 inch equals 5 feet, or larger), references with citations, and other supporting information, as applicable. All trenches, borings, and test pits shall be logged to a minimum of 10' below the final proposed grade or to bedrock refusal, whichever is lesser;

G. Conclusions that summarize the characteristics of the geologic hazards, and that address the potential effects of the geologic conditions and geologic hazards on the proposed development and occupants thereof in terms of risk and potential damage;

H. Specific recommendations for additional or more detailed studies, as may be required to understand or quantify the hazard, evaluate whether mitigation measures are required, and evaluate mitigation options;

I. Specific recommendations for avoidance or mitigation of the effects of the hazard(s), consistent with the purposes set forth in Chapter 16-14-010 shall be included in the report. These recommendations shall include design or performance criteria for engineered mitigation measures and all supporting calculations, analyses, modeling or other methods, and assumptions. Final design plans and specifications for engineered mitigation must be signed and stamped by a qualified professional licensed geotechnical or structural engineer, as appropriate;

J. Evidence on which recommendations and conclusions are based shall be clearly stated in the report;

K. Historical groundwater highs and lows must be indicated in the report. Any vegetation or

surface features that indicate perennially wet conditions or surface creep shall be identified in the report;

L. Additional or more detailed studies may be required to understand or quantify the hazard, or to evaluate whether mitigation measures recommended in the report are adequate;

M. The report must include the responsible professional's specific opinion regarding the suitability of the site for the proposed development.

16-14-070 Review of reports--Approval procedure.

1. In order to fulfill the purposes of this chapter, the Morgan County Engineer, Morgan County Planner, and/or Morgan County Building Official, shall review any proposed land use which requires preparation of a geologic hazard report under this chapter to determine the possible risks to the safety of persons or property from geologic hazards.

2. Prior to consideration of any such development for preliminary plat by the County, the geologic hazard report shall be submitted to Morgan County for review and recommendation. Morgan County may request other experts to review the report (third-party review) and provide additional recommendations. The cost of said third-party review shall be the responsibility of the developer. Morgan County shall retain a copy in the Community Development Department project file.

3. Morgan County and other retained experts in their review of the report, and the County Council in its consideration of the development, shall determine whether the development complies with all of the following standards:

   A. A suitable geologic hazard report has been prepared by a qualified professional as defined in Chapter 16-14-060;

   B. The proposed land use does not present an unreasonable risk to the safety of persons or property (including buildings, storm drains, public streets, utilities or critical facilities, whether off-site or on-site), or to the natural functions of the landscape (e.g. slopes, streams or other waterways, drainage, wildlife habitat, etc., whether off-site or on-site) because of the presence of geologic hazards or because of modifications to the site due to the proposed land use;

   C. The proposed land use may be approved if the reports submitted by the applicant demonstrate that, consistent with the state of the practice, the identified hazards can be mitigated to a level where the risk to human life and damage to property are reduced to an acceptable and reasonable level in a manner which will not violate applicable federal, state, or local statutes, ordinances or regulations. Mitigation measures should consider, in their design, the intended aesthetic functions of other governing ordinances.

4. Any area determined to contain geologic hazards to life or property shall not be approved for development unless the applicant demonstrates that the identified hazards or limitations can be reduced to an acceptable and reasonable manner. The applicant must include, with the geologic hazards report, a mitigation plan that defines how the identified hazards or limitations will be addressed, as described in Chapter 16-14-060, above, and without impacting or affecting off-site areas.

5. Morgan County may set other requirements as are necessary to overcome any geologic hazards and to ensure that the purposes of this chapter are met. These requirements may include, but are not limited to:

   A. Additional or more detailed studies to understand or quantify the hazard or determine whether mitigation measures recommended in the report are adequate;

   B. Specific mitigation requirements; establishing buildable and/or non-buildable areas; limitations on slope grading; and/or revegetation;

C. Installation of monitoring equipment and seasonal monitoring of surface and subsurface geologic conditions, including groundwater levels;

D. Other requirements such as time schedules for completion of the mitigation, phasing of development, etc.

6. Morgan County may also set requirements necessary to reduce the risks from geologic hazards as a condition to the approval of any development which requires a geologic hazards report.

16-14-080 Hold Harmless Agreement.

Applicants receiving any permit or approval within the Sensitive Lands Overlay Zone shall be required to sign and record on the property a hold harmless agreement. An example of such is as follows:

OWNERS ACKNOWLEDGEMENTS OF RESPONSIBILITY AND INDEMNIFICATION

STATE OF UTAH)
)§
COUNTY OF MORGAN)

We, the undersigned owners of the property located at: _____, Morgan County, Utah. Agree to indemnify and hold Morgan County harmless from any claim, damages, or liability that may arise against the County or its employees, agents or representatives related to improvements constructed on the property that may be damaged due to geologic hazards, regardless of level of identification of said hazard. We further acknowledge that failure of the County or any agents of the County to observe or recognize hazardous, unknown or unsightly conditions, or to recommend denial of this use because of said unrecognized hazardous, unknown or unsightly conditions shall not relieve the developer or owner from responsibility for the condition or damages resulting therefrom and shall not result in the County, its officer or agents being responsible for the conditions and damages resulting therefrom.

_____ _____
Property Owner Property Owner

Subscribed and sworn to before me this _____ day of _____, 20___.

_____
Notary Public